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The care of fish in retail stores

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Department of Fisheries of Canada

This booklet has been prepared as a guide for personnel who buy and handle fresh and frozen fish in retail stores. Its purpose is to outline improved purchasing and handling practices based on up-to-date scientific findings.

A highly perishable product, fish can be a highly profitable one if the consumer is able to obtain top quality. To sell top quality, a retailer must first stock it and then maintain it. To a great extent, the quality of fresh and frozen fishery products marketed is dependent on the treatment which they receive in the retail stores.

Buy TOP QUALITY fish

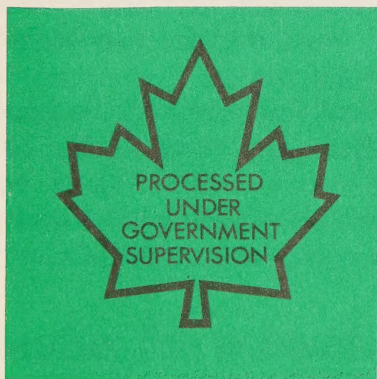
Are you getting the profits from fish that you should? If not, chances are that you are not consistently selling top quality products. With fish, quality is the touchstone to increased sales. It is remembered long after the price is forgotten.

It makes good sense that if you stock top quality fishery products and handle them correctly, the customers will come back for more. Here are a few tips on how to get the top quality.



Buy GOVERNMENT INSPECTED fish

When purchasing fresh and frozen fishery products, look for these symbols on wrappers, labels, containers, and large whole fish:

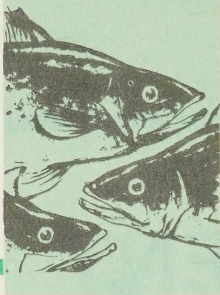


Fresh Fish Products



Frozen Fish Products

Only fresh and frozen fishery products which are processed in government registered plants and which at time of inspection meet certain standards of high quality may be identified by these symbols.



KNOW THESE

Fresh whole fish



Skin: shiny with colours bright. As fish lose freshness, the skin colours fade and become less pronounced.

Flesh: firm, elastic, and not separating from the bones.

Eyes: bright, clear, and full. As a fish becomes stale, the eyes become cloudy and sunken.

Gills: red and free from slime. The colour of the gills fades with age to pink, then gray, and finally to brown or dark green.

Odour: fresh and mild. When taken from the water, fish have almost no odour. With the passage of time a strong off-odour develops.

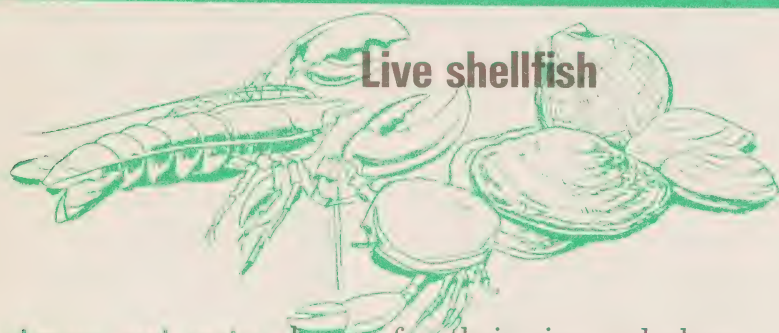
Fresh fillets and steaks



Flesh: fresh cut in appearance and firm in texture. There should be no traces of browning or drying out.

Odour: fresh and mild.

SIGNS OF QUALITY



Live shellfish

Lobsters and crabs: heavy for their size and show movement of the legs. The "tail" of a live lobster curls under the body and does not hang down when the lobster is picked up.

Oysters and clams: hard, well cupped shells. A gaping shell which does not close tightly when tapped indicates that the shellfish inside is dead and no longer edible. Canadian Atlantic oysters come graded as to shape of shell. The grades are fancy, choice, standard, and commercial.

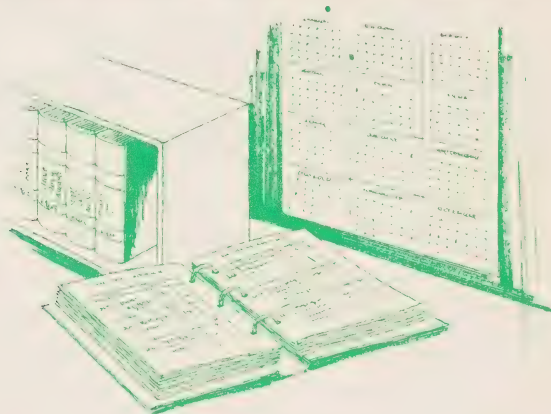
Frozen fish products

Flesh: solidly frozen. If cut surfaces are visible they should have a glossy appearance. There should be no white spots, papery edges, or other signs of drying out. There should be no discolouration.

Covering: a moisture-vapour-proof material which fits tightly. There should be little or no air space between fish and wrapping. Whole fish, frozen in the round or dressed, if not wrapped should be completely coated with an unbroken ice glaze.

Plan your purchases

Order carefully, taking into consideration past sales records, traditional fish days, holidays, and the day of the week on which the order will be received.

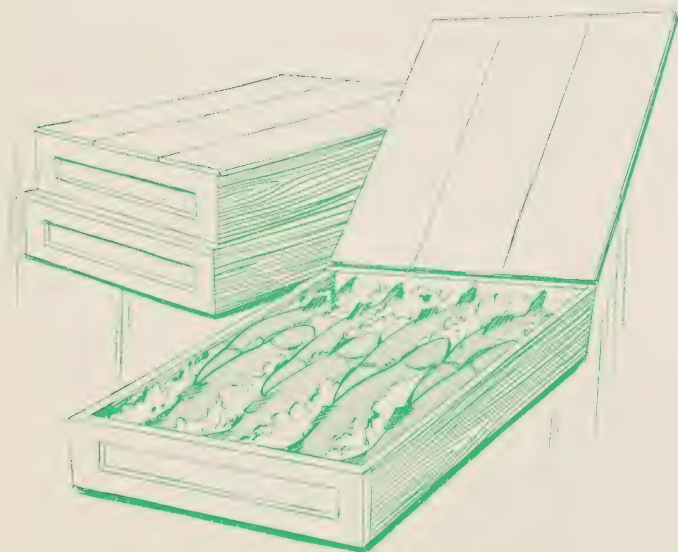


Arrange for frequent deliveries

Frequent deliveries eliminate the necessity of in-store holding of fresh and frozen fish. Since the quality of fresh fish is easiest to maintain on a day-to-day basis, daily delivery is the ideal arrangement. At most, order only enough fresh fish for 2 or 3 days. Order only enough frozen fish at a time to provide a good selection for the customers and to keep the cabinets stocked.

Insist on delivery of well iced fish

To preserve its quality, fresh fish must be kept cool, clean, and moist from the time it is caught until it is sold. It should be kept at a temperature as close as possible to that of melting ice, and it should be at this temperature when it reaches the store. If it is delivered from the wholesaler intimately mixed with and surrounded by ice, it should be at the right temperature.





THE CARE OF

Receiving deliveries

- Be ready for the delivery and have cold storage space available.
- Open boxes of fish and fish fillets as soon as they arrive to make sure that they are still well iced.
- Inspect each order for condition. Reject fish which show signs of spoilage.
- Get the order back under refrigeration quickly. Re-pack with clean ice as needed. Finely divided ice, i.e., flaked or crushed is preferable to large pieces because it does not bruise the flesh.
- Avoid rough handling. Bruises and punctures of the flesh will hasten spoilage.



FRESH FISH

Holding

■ Keep all fresh and cooked, unfrozen fishery products under refrigeration at all times. To ensure maximum storage life and maintenance of best quality, the Department of Fisheries of Canada recommends a constant temperature in the range of 30 to 32°F. Check display and storage area temperatures several times daily, preferably in two places.

■ Ice is an excellent preservative for fresh fish because not only does it hold the temperature low but it keeps the fish moist and in good condition. See that whole fish in the cool room are well iced in thin layers at all times. Surround fillets and steaks with ice but keep them from direct contact with it to prevent loss of soluble food elements. Display whole fish on ice, and cuts of fish on clean trays embedded in ice.

■ In order to keep product temperature low, do not build high displays in either a service or a self-service case. When displays are too high, although fish at the bottom may be at a satisfactory temperature, those at the top may be receiving little benefit from the refrigeration.

■ If packaging fresh fish for self-service, package not longer than one day ahead of sales.

■ Keep unfrozen, smoked fishery products under refrigeration but keep from direct contact with ice.

Remember that most unfrozen smoked fish products have a shelf life no longer than that of fresh fish.

- Keep salted fish products, which are not hard dried, under refrigeration. Keep from direct contact with ice. Hard dried, salted products need not be refrigerated but care should be taken not to expose them to high humidity.

- Keep marinated fish products, and all other prepared fishery products which have not been frozen or heat sterilized, under refrigeration.

- Keep live lobsters cool and moist. Upon arrival, examine shipments and cook any lobsters which seem weak or injured. Store live lobsters in the cool room in moist packing in their shipping containers, or store in tanks of aerated salt water. They will not



live in fresh water. If storing in salt water be sure to follow the tank manufacturer's directions for water changes, temperature and aeration. By looking the lobsters over once a day and using the weakest first, some can be kept on hand for a week or longer.

■ Store oysters-in-the-shell in the cool room. At a temperature of around 35°F, oysters which are received in good condition can sometimes be kept successfully for as long as four months. When the holding temperature rises above 40°F, the time becomes a matter of weeks rather than months. Store in a damp atmosphere but do not allow fresh water to come in contact with the oysters as it will kill them. Packing in damp seaweed is helpful for short-term storage.

■ Adhere to a strict policy of rotation to guarantee first in, first out. Keep in mind that fresh fish and shellfish, even under the best holding conditions, retain good quality for a limited period. If you have any doubt about the freshness of any of your stock, don't sell it. Sales of poor quality products may add to current profit but will discourage repeat sales.

Night and weekend care

■ At night see that fresh fish are well iced and that refrigerator doors are tightly shut.

■ Before closing the shop for the weekend, discard any fish of borderline quality. Re-ice where necessary and store all products under ideal temperature conditions. Effective ordering should leave a minimum carryover. Inspect all fish again before setting up the display for the next business week.



THE CARE OF

Why care is needed

There is a common misconception that once fish has been frozen, spoilage is prevented. While it is true that freezing does halt the more rapid spoilage changes, chemical and physical changes take place during frozen storage which cause fish to lose quality and eventually become unfit for sale.

What are some of these changes? There is a gradual toughening and drying out of the flesh. The characteristic flavour which marks each species gradually disappears, leaving the product somewhat flavourless. There is development of rancidity in the fatty species.

All of the changes which result in the deterioration of frozen fishery products are speeded by raising the storage temperature and slowed by lowering it. At temperatures above 0°F the changes are rapidly accelerated.

Raising the temperature of frozen fish above 0°F for just short periods has a damaging effect on its quality. Studies on frozen, packaged cod fillets by the Fisheries Research Board of Canada have shown that a few days at 10 to 15°F may do as much damage as storage for six months to a year at 0° or -10°F. Temperature damage is permanent. While further

FROZEN FISH

damage can be slowed by lowering the temperature again, the storage life of the fish has been shortened and its taste appeal adversely affected.

Receiving deliveries

- Be ready for the load and have frozen storage space available.
- Inspect the order for condition. Reject any thawed or partially thawed products.
- Transport the order directly from the delivery truck into frozen storage. Never allow frozen fish to stand at room temperature.



Holding

- Store frozen fish at a constant temperature and one which is as low as possible. The Department of Fisheries of Canada recommends a storage temperature of -15°F or colder.

- Check the temperature of storage and display facilities several times daily.



- Do not keep fishery products in a frozen food cabinet for longer than one month. Many of the cabinets used today do not maintain products at or near 0°F . For maintenance of good quality during long term storage, a temperature of -15°F or colder is required. There will be marked deterioration in fishery products if held at 0°F for several months.

- See that all fishery products in frozen storage are protected from drying out either by an unbroken ice glaze or, an undamaged, moisture-vapour-proof wrapping. Check the frozen fish cabinet at regular intervals and remove any packages which have become torn. When taking ice-glazed fish from frozen storage for the purpose of removing steaks, if possible re-glaze the cut end before returning the remainder to low temperature storage. Reglazing of whole fish may be necessary if the storage period extends beyond thirty days.

Stocking freezer cabinets

■ Stock quickly. Temperature damage to frozen foods occurs most frequently during transfer of merchandise from one place of storage to another. Anything you can do to reduce the time that cases of frozen fish are exposed to room temperature will help to maintain their quality.

■ When re-stocking cabinets, place new merchandise under or behind old merchandise. Uphold the principle first in, first out, and aim at a weekly turnover of all packages.

■ Place packages close together, but not so tightly that they are difficult to remove. Displays which are too tight take longer to stock, make it difficult for customers to obtain products, and often result in torn packages.



■ Use of dividers in cabinets has been found to simplify stocking and aids in maintaining an orderly display.

Promoting maximum freezer cabinet efficiency

- Locate cabinets where they will be subjected to a minimum of air currents.
- Stack packages below the load line in cabinets.
- Never put into a frozen fish cabinet any unfrozen product, or any product which is at a higher temperature than that maintained by the cabinet.
- Stack cartons away from walls and ceilings and off the floors in frozen food storage rooms, thus permitting the cold air to circulate.
- Defrost facilities at regular intervals, transferring stock in advance to another freezer.
- Have facilities serviced on a regular schedule.

Thawing

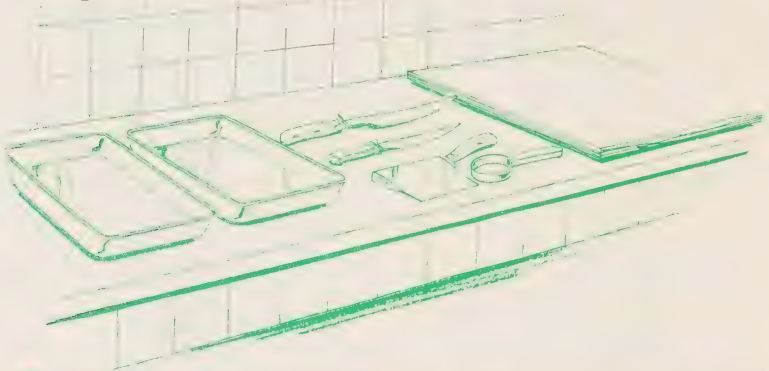
- If thawing should occur, do not re-freeze the thawed products but sell as defrosted fish. Re-freezing is likely to further damage their quality. It will also raise the temperature of the freezer and other products in it will suffer.





SOME OTHER

Emphasize cleanliness



- Keep all equipment which comes in contact with fish scrupulously clean. Contamination will result from use of any unclean items such as storage boxes, coolers, display cases, trays, knives, and cutting boards . . . and will likely hasten spoilage.
- Provide for adequate disposal of waste. Use containers having tight fitting covers and after disposal of waste, wash and disinfect all containers.
- See that the premises are bright and clean, adequately ventilated, and free from flies, other insects, and vermin.
- See that employees are clean and well groomed.

Display attractively

- See that all display areas are spotlessly clean before the display is built.

MERCHANDISING TIPS

- See that the lighting is complimentary. Avoid use of lights which tend to give the white flesh of fish a yellow appearance.
- Have displayed items well identified and clearly priced.
- Aim for a neat, pleasing arrangement of products.
- Call attention to featured items by such means as posters, back-wall signs, and use of nautical items.



Promote products

- Keep customers advised of seasonal products and weekly specials. Advertisements and alert, informed clerks can do much to stimulate sales.
- Offer recipes and serving suggestions for featured items.



ROGER DUHAMEL, F.R.S.C.
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